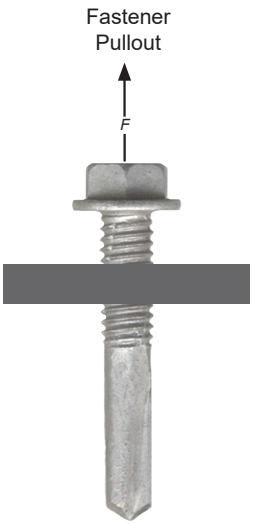


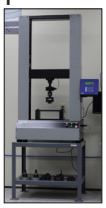
FASTENER PULLOUT LOADS | DRILL SCREWS

Because the tensile strength of the substrate dramatically affects the pullout of the fastener, TFC provides published pullout results based on a calculation developed by AISI.

The following pullout loads were calculated per AISI S100 | Section 4 of the Supplement No. 2 to the American Specification for the Design of Cold-Form Steel Structural members (S100-07/S2-10).

Many tests were conducted with compressible fiberglass insulation placed between steel sheet samples. It was determined by the results that the equations are valid for steel connections including applications that use compressible insulation. Refer to AISI S100 for more details.

- The pullout calculation requires the use of the nominal diameter of the screw and the tensile strength of the substrate.
- Because substrate tensile and specific fastener details like point diameter affects pullout loads, these pullout loads are conservative.



For tested values, contact Triangle Fastener to conduct actual pullout tests based on a specific fastener style and the tensile strength requirement of the substrate.

Pullout Loads | Ultimate in Pounds Force
Carbon Steel and 410 Stainless Steel Screws

The tensile strength of the substrate that is used in the chart below is typical for metal building and roofing applications. Contact TFC if other substrate tensile strengths are required.

Fastener Information		PULLOUT | ULTIMATE LOAD IN POUNDS Calculated Values In Accordance to AISI S100 | Section E4													
		Grade 50 per ASTM A1011 60Ksi Min. Steel					Grade 50 per ASTM A792/A653/A572/A529 65Ksi Min. Steel								
Screw Size	Nom Dia. (in.)	26 Ga. (.018")	25 Ga. (.021")	24 Ga. (.024")	22 Ga. (.030")	20 Ga. (.036")	18 Ga. (.048")	16 Ga. (.060")	14 Ga. (.075")	12 Ga. (.105")	1/8" (.125")	10 ga (.135")	1/4" (.250")	3/8" (.375")	1/2" (.500")
#8-18	.164"	151	177	202	252	303	435	543							
#10-16	.190"	174	203	233	291	349	504	627	786	1,101	1,311				
#10-24	.190"						504	627	786	1,101	1,311				
#12-14	.216"	198	231	264	330	397	573	716	895	1,253	1,492	1,611			
#12-24	.216"										1,492	1,611	2,984	*4,475	*5,967
1/4-14	.250"	230	268	306	383	459	633	829	1,036	1,450	1,727	1,865	3,453		
1/4-20	.250"										1,727	1,865	3,453	*5,180	*6,906
5/16-12	.3125"						829	1,036	1,295	1,813	2,158	2,331			

* Denotes load exceeds tensile strength of screw.

For allowable loads, please apply an appropriate Factor of Safety as required by local and national code requirements.

AISI S100 Section E4 recommends a Factor of Safety of 3 for allowable loads.